UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF COMMERCIAL FISHERIES

CALIFORNIA FISHERY MARKET NEWS MONTHLY SUMMARY

DECEMBER 1967

PART II–Fishing Information*

Sea-surface temperatures, fishing and research information of interest to the West Coast tuna-fishing industry and marine scientists

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U. S. Department of the Interior
Bureau of Commercial Fisheries
Fishery-Oceanography Center
P. O. Box 271
La Jolla, California 92037

*Part I - "Fishery Products Production and Market Data" is issued by the Bureau of Commercial Fisheries, Market News Service, U. S. Custom House, Terminal Island, California

CALIFORNIA FISHERY MARKET NEWS MONTHLY SUMMARY

DECEMBER 1967

QUESTIONNAIRE SUMMARY TO APPEAR NEXT MONTH

Approximately 900 questionnaires were distributed to all subscribers to the California Fishery Market News Monthly Summary, Part II - Fishing Information on November 9, 1967. To date we have received approximately 290 responses, representing a sample of about 30 percent of our readers.

We will summarize the questionnaires in the next issue of this publication. We plan to indicate briefly just how the fishing, industrial, and research communities responded. General reaction from all groups was favorable, and constructive comments and suggestions tended to fall into approximately 10 major categories. These will be outlined in detail in the forthcoming report.

The staff of the Fishery Forecasting and Environmental Monitoring Program (formerly the Tuna Forecasting Program) wishes to express its sincere appreciation to those who devoted the time to filling out and returning the questionnaire. The information received will be given careful analysis, and all constructive suggestions will be considered for incorporation into our 1968 season activities.

Acknowledgements

The following organizations and stations contributed data for the December 1967 charts:

U. S. Bureau of Commercial Fisheries Exploratory Fishing and Gear Research Base, Seattle, Washington
U. S. Bureau of Commercial Fisheries Biological Laboratories La Jolla, California; Honolulu, Hawaii; and Seattle, Washington
U. S. Coast and Geodetic Survey, Pacific Marine Science Center, Seattle, Washington, USC&GSS Oceanographer
U. S. Coast Guard Air Station, San Diego, California
U. S. Naval Communication Station Balboa, Fort Amador, Canal Zone
U. S. Naval Weather Service, Fleet Numerical Weather Facility Monterey, California
Environmental Science Services Administration
U. S. Weather Bureau, San Diego, California
U. S. Weather Bureau Forecast Center, Los Angeles, California
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Kelco Company, San Diego, California
Matson Navigation Company, San Francisco, California, SS Californian
Oregon State University, Department of Oceanography, Corvallis, Oregon R/V Yaquina
Pacific Missile Range, Range Operations Department, Geophysics Division, Point Mugu, California
Pacific Oceanographic Group, Nanaimo, British Columbia, by H. J. Hollister from observations by G. C. Wilks at Langara Island Light; W. K. Richardson at Cape St. James Light; Lily Collins at Quatsino Lightstation; O. A. Edwards at Amphitrite Point Light
Scripps Institution of Oceanography, La Jolla, California by Margaret Robinson and Hans Klein
W. R. Grace and Company, New York by Dr. I. William Lane
Ships Princess, Martinac

Charts

Figure 1.--Mean sea surface temperatures (°F) derived from approximately 9000 observations. Squares show temperatures at weather ship stations. Numerals on shore are temperatures at coastal and lightship stations.

Figure 2.--Deviation of sea surface temperatures (°F) from long term charts of H.O. 225. Hatched areas are colder in 1967.

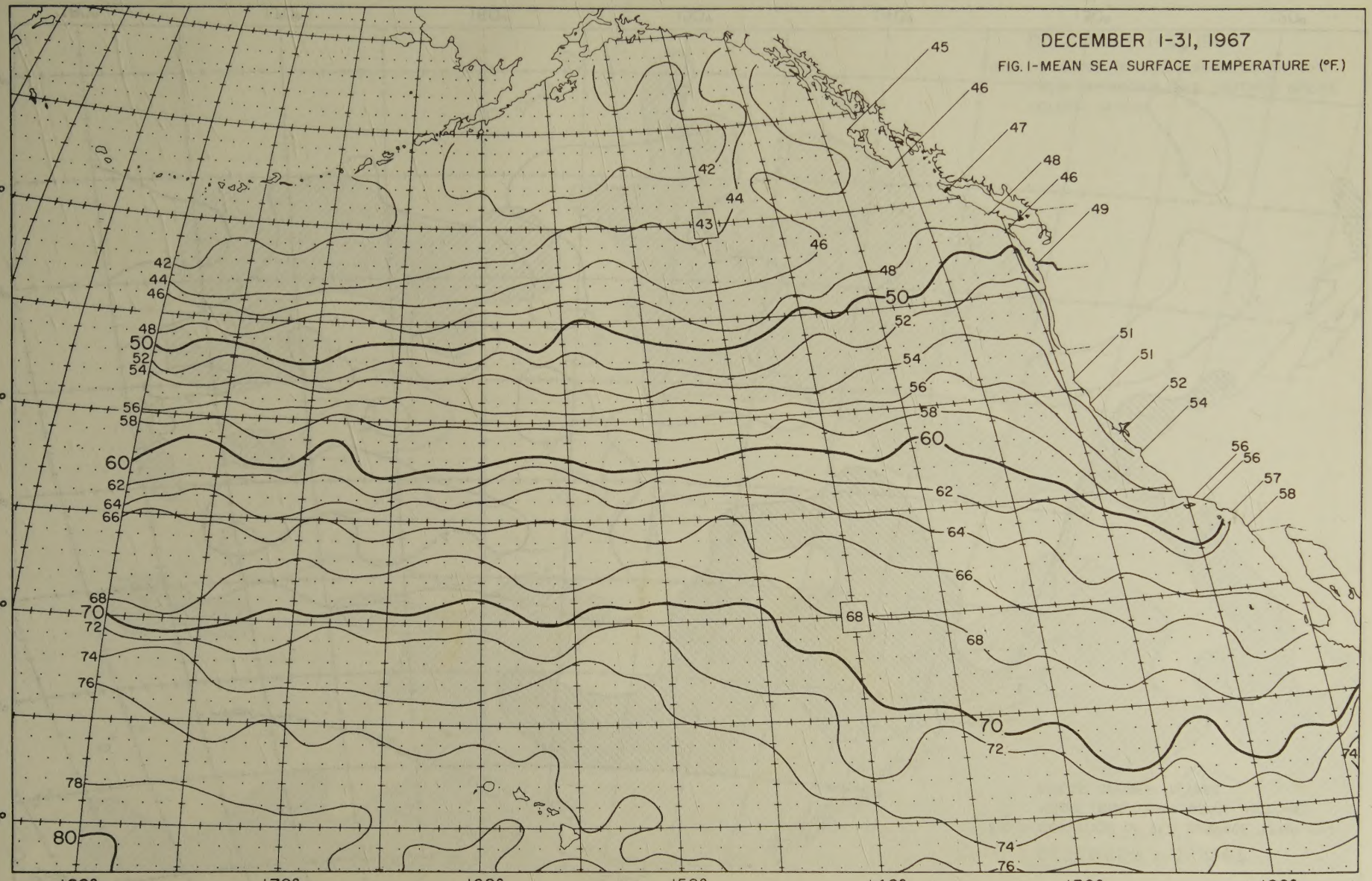
Figure 3.--Deviation of sea surface temperatures (°F) from those of December 1966. Hatched areas are colder in 1967.

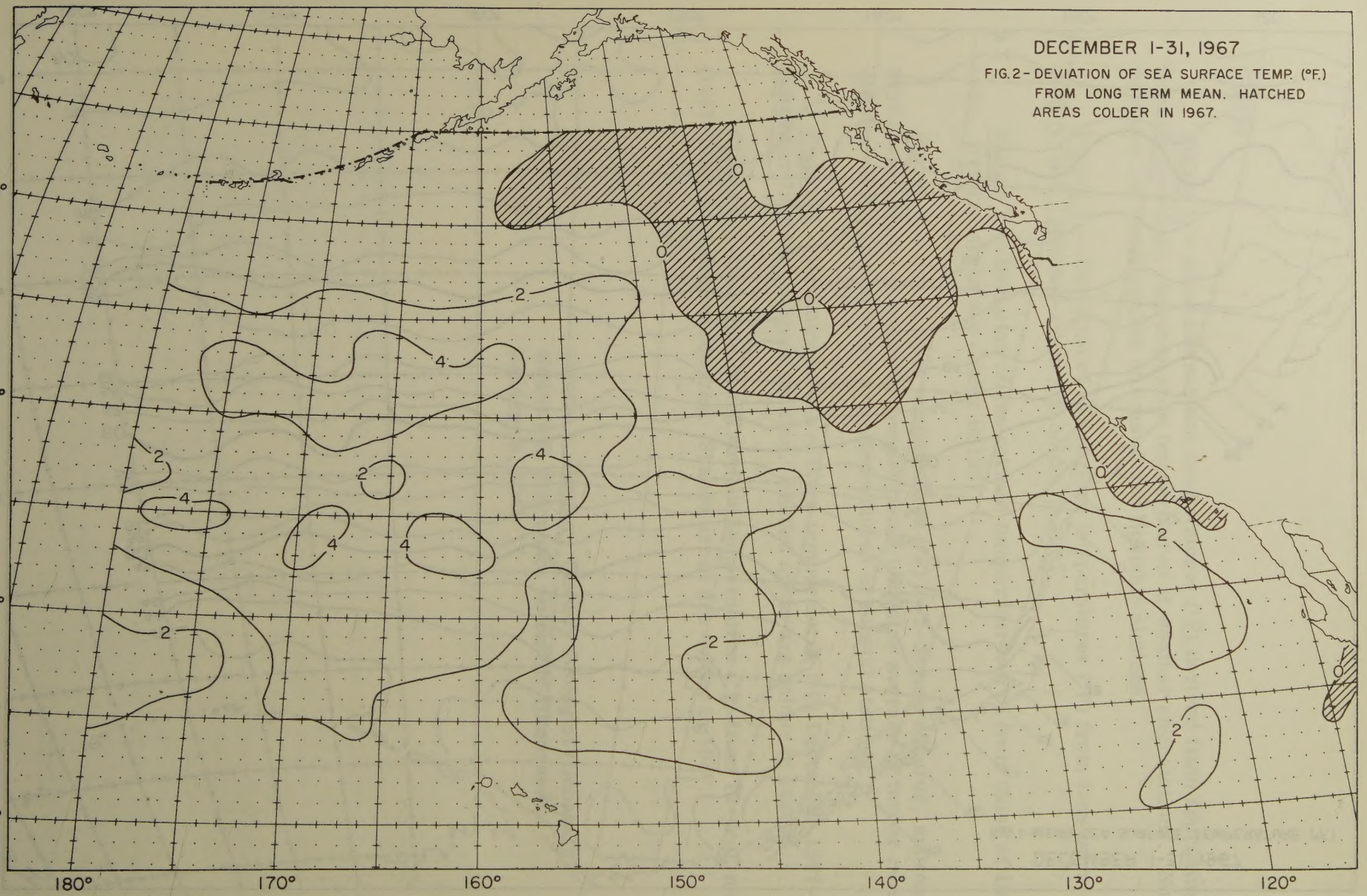
Figure 4.--Sea surface temperatures (°F) by 1-degree squares, approximately 3000 observations. Line under temperatures indicates average of two or more observations. Numerals on shore are temperatures at coastal stations.

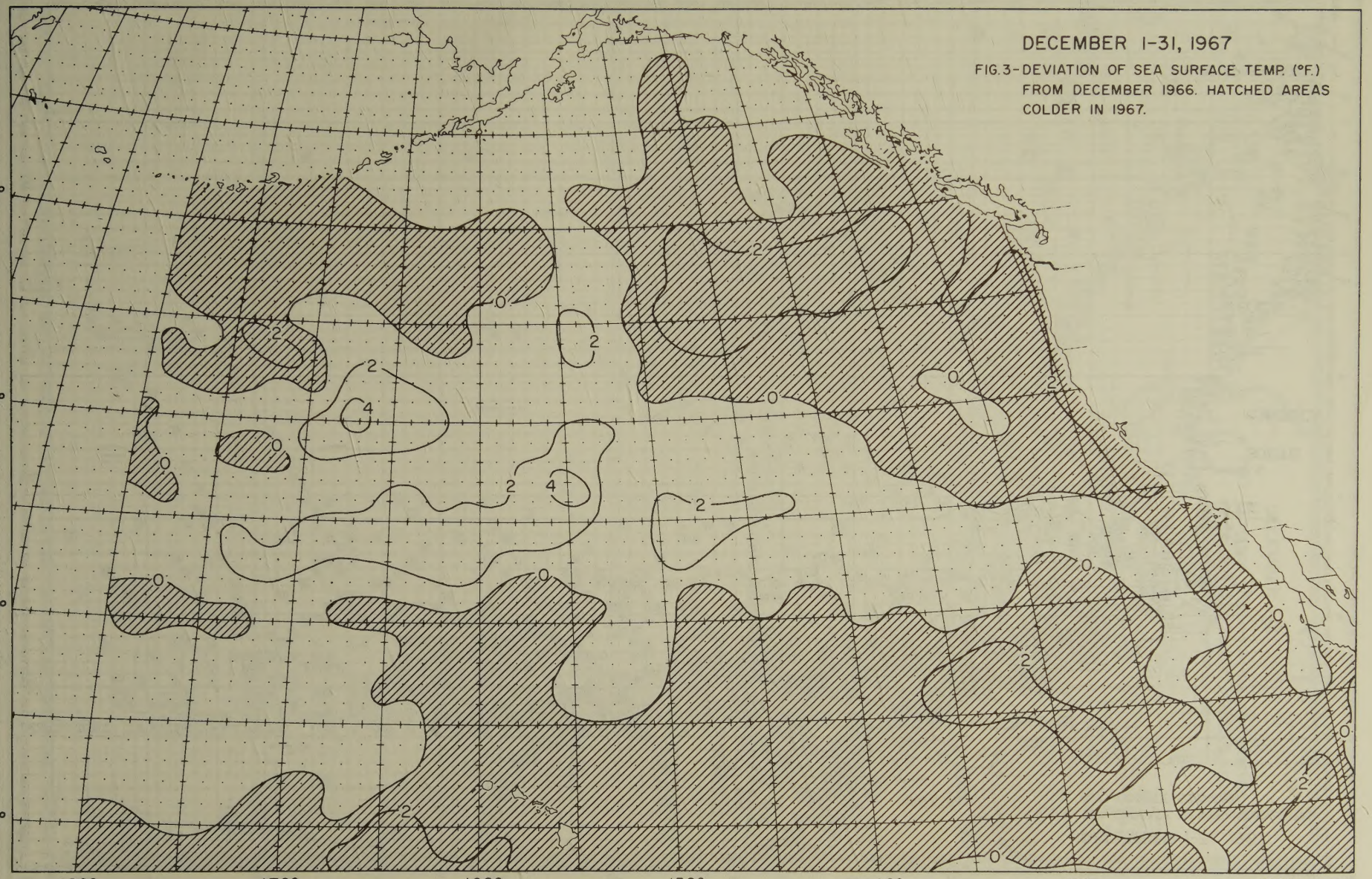
Figure 5.--Deviation of sea surface temperatures (°F) December 1967-December 1966 by 1-degree squares. Shaded areas are colder in 1967.

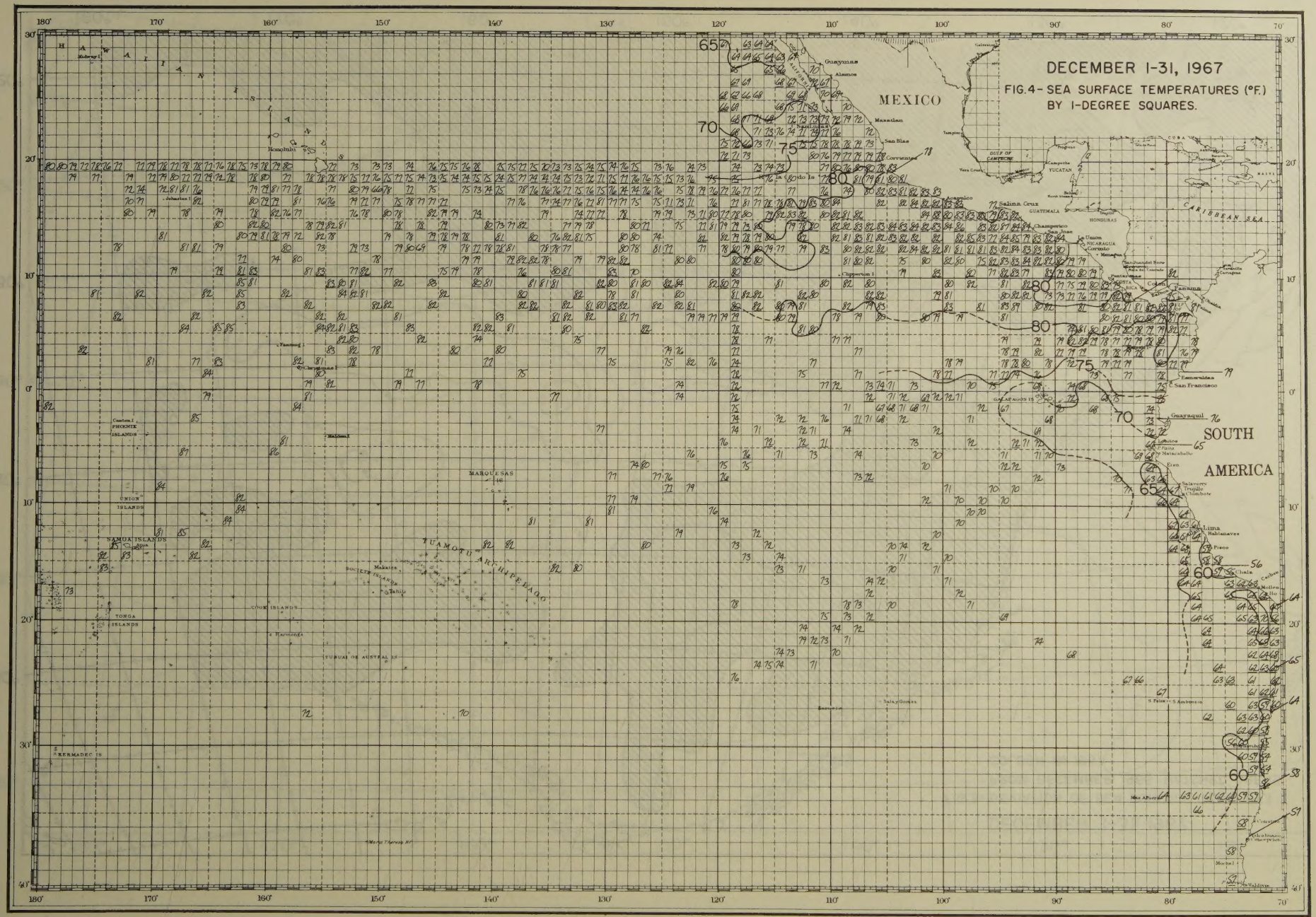
Figure 6.--Deviation of sea surface temperatures (°F) from 12-year mean (1947-1958) by 2-degree squares. Shaded areas are colder in 1967.

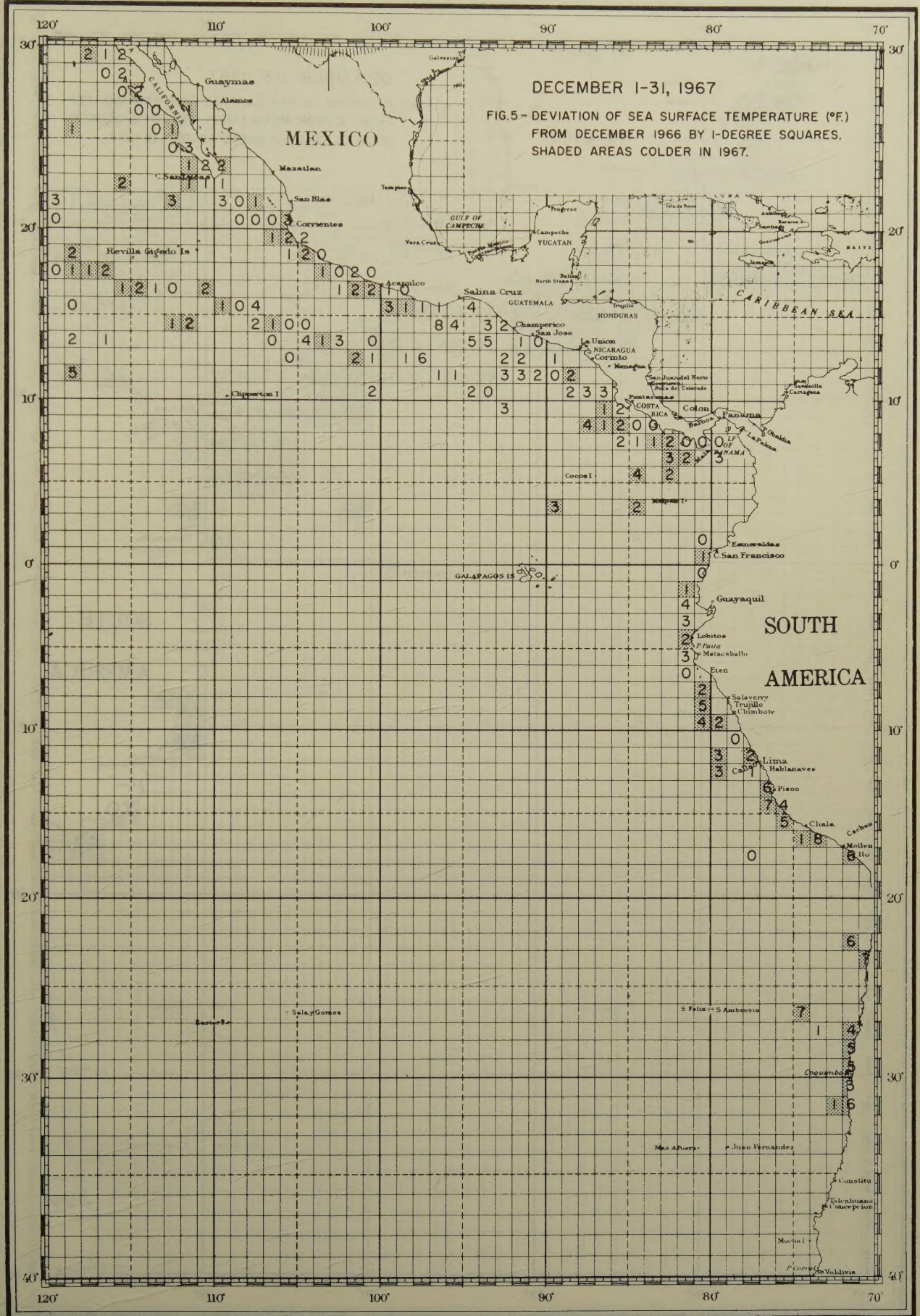
James A. Renner, Fishery Biologist (General)
Kenneth S. Raymond, Scientific Illustrator
January 9, 1968

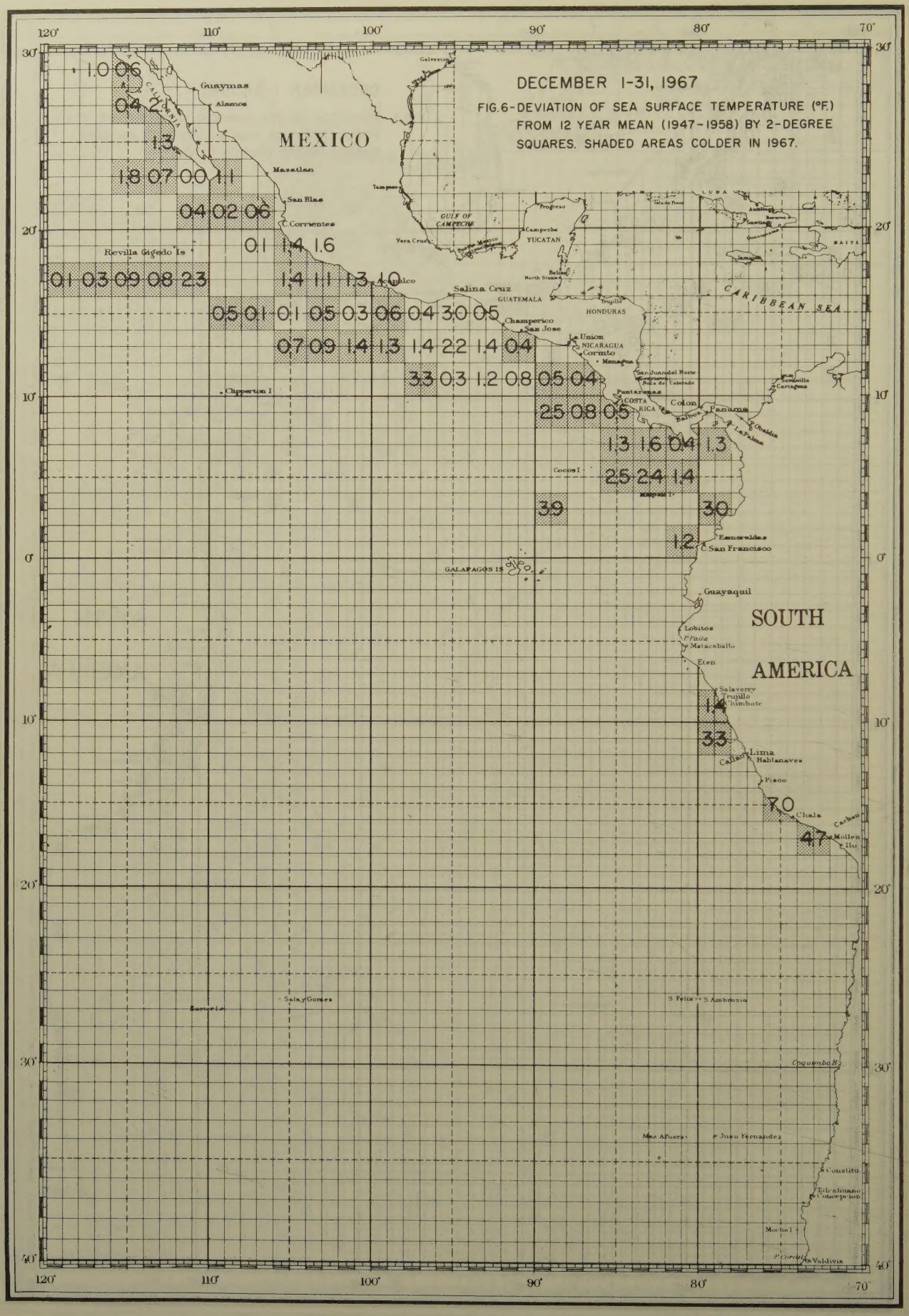

DECEMBER 1-31, 1967
FIG. 1-MEAN SEA SURFACE TEMPERATURE (°F.)
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


DECEMBER 1-31, 1967
FIG. 2 - DEVIATION OF SEA SURFACE TEMP. (°F.) FROM LONG TERM MEAN. HATCHED AREAS COLDER IN 1967.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°
0
2
4


DECEMBER 1-31, 1967
FIG.3-DEVIATION OF SEA SURFACE TEMP. (°F.) FROM DECEMBER 1966. HATCHED AREAS COLDER IN 1967.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


DECEMBER 1-31, 1967
FIG. 4 - SEA SURFACE TEMPERATURES (°F.)
BY 1-DEGREE SQUARES.
MEXICO
SOUTH
AMERICA
CARIBBEAN SEA
HAWAIIAN ISLANDS
Honolulu
Johnston I.
Canton I.
PHOENIX ISLANDS
Fanning I.
Christmas I.
Palmyra I.
UNION ISLANDS
SAMOA ISLANDS
TONGA ISLANDS
COOK ISLANDS
MARQUESAS Is.
TUAMOTU ARCHIPELAGO
Tahiti
Makatea
SOCIETY ISLANDS
Rapa
Easter I.
KERMADEC IS.
GALAPAGOS IS.
Guaymas
Mazatlan
San Blas
Corrientes
Salina Cruz
Champerico
Corinto
Panama
Esmeraldas
San Francisco
Guayaquil
Salaverry
Chimbote
Lima
Pisco
Callao
Mollendo
Arica
Iquique
Valparaiso
Talcahuano
Corral
Mocha I.
Juan Fernandez Is.
Salas y Gomez
Sala y Gomez
Ambrym
Malekula
Efate
Aneityum
Tanna
Futuna
Matacabulo
Tumbes
Paita
Talara
Progreso
Campeche
Veracruz
Tampico
Acapulco
Manzanillo
Puerto Vallarta
Mazatlan
Guaymas
Cabo San Lucas
Ensenada
Los Angeles
San Diego
Monterey
Cedros I.
Guadalupe I.
Socorro I.
Clarion I.
Roca Partida
Revillagigedo Is.
Cocos I.
Malpelo I.
Gorgona I.
Gallo I.
Isla de la Plata
Puerto Pizarro
Puerto Bolivar
Salinas
Manta
Bahia
Caldera
Coquimbo
Quintero
Valparaiso
Constitucion
Concepcion
Lebu
Corral
Ancud
Puerto Montt
Chiloe I.
Juan Fernandez Is.
Mocha I.
Easter I.
Rapa
Tubuai or Austral Is.
Raivavae
Marquesas Is.
Nuku Hiva
Hiva Oa
Fatu Hiva
Tahuata
Ua Huka
Ua Pou
Nuku Hiva
Tahiti
Makatea
Society Islands
Tuamotu Archipelago
Samoa Islands
Tonga Islands
Cook Islands
Union Islands
Phoenix Islands
Canton I.
Fanning I.
Christmas I.
Palmyra I.
Johnston I.
Honolulu
Hawaiian Islands
Kermadec Is.
Galapagos Is.
Isla Isabela
Isla Fernandina
Isla Santiago
Isla Pinta
Isla Marchena
Isla Genovesa
Isla Santa Cruz
Isla San Cristobal
Isla Floreana
Isla Española
Isla Santa Fe
Isla Santa Maria
Isla Pinzon
Isla Rabida
Isla Seymour
Isla Baltra
Isla North Seymour
Isla Daphne
Isla Bartolome
Isla Sombrero Chino
Isla Plaza
Isla Santiago
Isla Pinta
Isla Marchena
Isla Genovesa
Isla Santa Cruz
Isla San Cristobal
Isla Floreana
Isla Española
Isla Santa Fe
Isla Santa Maria
Isla Pinzon
Isla Rabida
Isla Seymour
Isla Baltra
Isla North Seymour
Isla Daphne
Isla Bartolome
Isla Sombrero Chino
Isla Plaza


DECEMBER 1-31, 1967
FIG.5 - DEVIATION OF SEA SURFACE TEMPERATURE (°F.) FROM DECEMBER 1966 BY 1-DEGREE SQUARES. SHADED AREAS COLDER IN 1967.
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
GULF OF CAMPECHE
GUATEMALA
HONDURAS
NICARAGUA
COSTA RICA
PANAMA
CUBA
HAITI
JAMAICA
GALAPAGOS IS
Guaymas
Alamos
Mazatlan
San Blas
Corrientes
Revilla Gigedo Is
Acapulco
Salina Cruz
Champerico
San Jose
La Union
Cormto
Managua
Chippertons I
Punta Mala
Colon
Panama
Coco I
Esmeraldas
San Francisco
Guayaquil
Lobitos
Pta Mata
Matacaballo
Eten
Salaverry
Trujillo
Chimbote
Lima
Hablanaves
Pisco
Chala
Mollendo
Arica
S Felix
S Ambrosio
Juan Fernandez
Valdivia
Corcovado
Constitu
Talcahuano
Concepcion
Mocha I
Sala y Gomez
Easter I
120°
110°
100°
90°
80°
70°
30°
20°
10°
0°
40°


DECEMBER 1-31, 1967
FIG.6-DEVIATION OF SEA SURFACE TEMPERATURE (°F.) FROM 12 YEAR MEAN (1947-1958) BY 2-DEGREE SQUARES. SHADED AREAS COLDER IN 1967.
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
GULF OF CAMPECHE
GUATEMALA
HONDURAS
NICARAGUA
COSTA RICA
CUBA
HAITI
GALAPAGOS IS
Guaymas
Alamos
Mazatlan
San Blas
Corrientes
Revilla Gigedo Is
Salina Cruz
Champerico
San Jose
Chipperton I
Cocos I
Galveston
Tampico
Vera Cruz
Progreso
Campeche
YUCATAN
Belize
North Stann
Trujillo
La Union
Corinto
Managua
San Juan del Norte
Bahia de Colonde
Puntarenas
Colon
Panama
Bahoa
Chiriqui
La Palma
Cartagena
Guayaquil
Lobitos
Pt Pariña
Malacaballo
Eten
Salaverry
Trujillo
Chimbote
Callao
Lima
Hablanaves
Pisco
Chala
Caraba
Mollen
Ilo
Salay Gomez
Easter I
S Felix
S Ambrosio
Juan Fernandez
Mas Afuera
Constitu
Talcahuano
Concepcion
Mocha I
Valdivia
Corquimbo B
1.0 0.6
0.4 2.2
1.3
1.8 0.7 0.0 1.1
0.4 0.2 0.6
0.1 1.4 1.6
0.1 0.3 0.9 0.8 2.3
1.4 1.1 1.3 1.0
0.5 0.1 0.1 0.5 0.3 0.6 0.4 3.0 0.5
0.7 0.9 1.4 1.3 1.4 2.2 1.4 0.4
3.3 0.3 1.2 0.8 0.5 0.4
2.5 0.8 0.5
1.3 1.6 0.4 1.3
2.5 2.4 1.4
3.9
3.0
1.2
1.4
3.3
7.0
4.7

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